REMARKS

Claims 48-49, 51, 52, 54, 55, 65, 66, 68 and 69 are pending in the application. Claims 45-47 have been allowed. In view of the following remarks, it is respectfully submitted that all of the presently pending claims are allowable.

Claims 48, 49, 51 and 68 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,954,629 to Yanagidaira et al. ("Yanagidaira") in view of U.S. Patent No. 5,241,967 to Yasushi et al. ("Yasushi") and U.S. Patent No. 6,001,065 to DeVito ("DeVito"). The Examiner states that Yanagidaira shows a device having an active electrode, an amplifier and a selectively adjustable filter but does not disclose or suggest a sound generator or radio transmitter. The Examiner states that these elements are shown in Yasushi and DeVito, respectively.

Claim 48 recites a medical system for analyzing brain waves of a subject comprising "an active EEG (electroencephalograph) electrode detecting a subject's analog brain waves", a "connection means removably connecting the electrode to a subject's head", "an amplifier situated on the connection means, the amplifier amplifying the detected brain waves", "a radio transmitter situated on the connection means, the radio transmitter generating a brain wave broadcast signal based on the detected analog brain waves, the radio transmitter broadcasting the brain wave broadcast signal", "*a receiver receiving and amplifying the brain wave broadcast signal*", "a selectively adjustable filter separating one of a single frequency band and an group of frequency bands from a brain wave frequency spectrum represented by the brain wave broadcast signal to generate a frequency band signal" and a "sound generator coupled to the receiver, the sound generator converting the frequency band signal into a sound, corresponding to the analog brain waves."

As noted by the Examiner, Yanagidaira fails to teach or suggest "a radio transmitter situated on the connection means, the radio transmitter generating a brain wave broadcast signal based on the detected analog brain waves, the radio transmitter broadcasting the brain wave broadcast signal" or "*a receiver receiving and amplifying the brain wave broadcast signal*", as recited in claim 1. It is respectfully submitted that neither Yasushi nor DeVito cures the above-described deficiencies. Although the Examiner points out that DeVito shows an amplifier on the transmission side of the system, namely, the transmitter 30 on the headband 20 (*See* DeVito, col. 4, ll. 35-49), the Examiner does not address the feature of a receiver receiving and amplifying

the brainwave broadcast signal. This post-receipt amplification feature of the receiver is not disclosed or suggested by DeVito.

Therefore, applicants respectfully submit that neither Yanagidaira nor Yasushi nor DeVito, either alone or in combination, discloses or suggests "a receiver receiving *and amplifying the brain wave broadcast signal*", as recited in claim 48. Because claims 49 and 51 depend from, and, therefore include all of the limitations of claim 48, it is respectfully submitted that these claims are also allowable.

Claim 68 recites limitations substantially similar to claim 48 including "receiving *and amplifying the brain wave broadcast signal* using a hand-held radio receiver." Thus, it is respectfully submitted that claim 68 is also allowable for at least the same reason stated above in regard to claim 48.

Claims 48, 49, 51, 52, 55, 65, and 68 stand rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,357,957 to Itil et al. ("Itil") in view of U.S. Patent No. 3,807,387 to MacNichol Jr. ("MacNichol") and U.S. Patent No. 4,454,886 to Lee ("Lee"). The Examiner states that Itil discloses the invention as claimed except for an audible output and determination of brain dysfunction, but that these features are disclosed in Lee and MacNichol, respectively.

As correctly recognized by the Examiner, Itil neither discloses nor suggests a "sound generator coupled to the receiver, the sound generator converting the frequency band signal into a sound, corresponding to the analog brain waves." (*See* Non-Final Office Action, 4/3/07, p. 5, ll. 9-11). It is respectfully submitted that Lee does not cure the deficiencies of Itil.

Specifically, Lee describes a method for generating a sound output signal 24 from brain waves of a patient. Each electrical signal generated by an electrode 14 is passed through a band-pass filter to exclude noise lying outside of a brain wave frequency band, e.g., 1-50 Hz. The sound output signal 24 is a single signal which corresponds to the brainwaves for the entire brain wave frequency band. Thus, the sound output signal 24 does not represent the brainwaves of the patient in a particular frequency band (e.g., theta) or group of frequency bands (e.g., theta, alpha) selectively filtered from the brain wave frequency spectrum, as recited in the present invention. Thus, Lee does not disclose a "sound generator coupled to the receiver, the sound generator converting the frequency band signal into a sound, corresponding to the analog brain waves" as

recited in claim 48.

Furthermore, the Examiner explicitly notes that "[L]ee does not have a selectively adjustable or a sound generator." (*See* Non-Final Office Action, 4/3/07, p. 5, ll. 9-11). It is therefore submitted that claim 48 is allowable for at least the reasons stated above. Because claims 49 and 51depend from, and therefore, include all of the limitations of claim 48, it is respectfully submitted that these claims are also allowable.

Claim 68 recites limitations substantially similar to claim 48 including "generating a sound based on the frequency band signal using the hand-held receiver." Thus, it is respectfully submitted that claim 68 is also allowable for at least the same reasons stated above in regard to claim 48.

Furthermore, it is noted that Itil does not disclose "a selectively adjustable filter separating one of a single frequency band and a group of frequency bands from a brain wave frequency spectrum represented by the brain wave broadcast signal to generate a frequency band signal" as noted in claim 48. Rather, Itil discloses a hardware system that has a user interface that may be used to select filter ranges. (*See* Itil, col. 6, ll. 2-6). Itil does not expressly disclose or suggest the filtering of one or more frequency bands from the brain wave spectrum in order to perform an analysis of the frequency band signal, as stated in claim 48.

As correctly noted by the Examiner, Lee too does not disclose or suggest "a selectively adjustable filter separating one of a single frequency band and a group of frequency bands from a brain wave frequency spectrum represented by the brain wave broadcast signal to generate a frequency band signal" as recited in claim 48. (*See* Non-Final Office Action, 4/3/2007, p. 5, ll. 9-11).

It is therefore noted that neither Itil nor MacNichol nor Lee, either alone or in combination, discloses or suggests a "a selectively adjustable filter separating one of a single frequency band and a group of frequency bands from a brain wave frequency spectrum represented by the brain wave broadcast signal to generate a frequency band signal" as recited in claim 48. It is therefore submitted that claim 48 is in condition for allowance. Because claims 49 and 51 depend from, and, therefore include all of the limitations of claim 48, it is respectfully submitted that these claims are also allowable.

Claim 52 recites limitations substantially similar to claim 48 including "a selectively adjustable filter separating one of a single frequency band and a group of frequency bands from a brain wave frequency spectrum represented by the brain wave broadcast signal to generate a frequency band signal." Thus, it is respectfully submitted that claim 52 is also allowable for at least the additional reasons stated above in regard to claim 48. Because claims 55 and 65 depend from, and, therefore include all of the limitations of claim 52, it is respectfully submitted that these claims are also allowable.

Claim 68 recites limitations substantially similar to claim 48 including "selectively separating one of a single frequency band and a group of frequency bands from a brain wave frequency spectrum represented by the brain wave broadcast signal to generate a frequency band signal". Thus, it is respectfully submitted that claim 68 is also allowable for at least the additional reasons stated above in regard to claim 48.

Additionally, the Examiner notes that Itil discloses a remote receiver which receives the signals and processes them to identify brain function and/or dysfunction. However, it is noted that Itil merely teaches a system whereby the brain electrical signals are processed into graphic interpretation for viewing and diagnostic interpretation. (*See* Itil, col. 1, ll. 23-28). Itil neither discloses or suggests a "a processor analyzing the frequency band signal to determine the existence of brain dysfunction, wherein the output device generates an audible warning signal when the analysis of the frequency band signal is indicative of brain dysfunction." As recited in claim 52, the system comprises a processor that determines the existence of brain dysfunction. It is respectfully submitted that MacNichol does not cure the deficiencies of Itil.

Specifically, MacNichol merely detects brain wave signals but does not perform a subsequent determination, particularly when a brain dysfunction exists. Both MacNichol and Itil receive the detected brain wave signals and displays the results to a user for monitoring purposes. Accordingly, it is respectfully submitted that neither Itil nor MacNichol, either alone or in combination, discloses or suggests "a processor analyzing the frequency band signal to determine the existence of brain injury, wherein the output device generates an audible warning signal when the analysis of the frequency band signal is indicative of brain dysfunction," as recited in claim 52.

Furthermore, Applicants respectfully submit that the Examiner has improperly equated cerebral death with brain dysfunction. Specifically, the Examiner notes that "a person who

suffered cerebral death would have a brain that is not functioning normally." (*See* Non-Final Office Action, 4/3/2007, p. 5, ll. 13-15). It is hereby noted that the Merriam-Webster online dictionary (www.m-w.com) defines a dysfunction as "impaired or abnormal functioning". A cerebral death is not indicative of impaired or abnormal functioning of the brain but rather, of a brain that is not functioning at all. Therefore, readings and outputs generated to detect a brain dysfunction are markedly different from readings and outputs generated to classify a death as a cerebral death, as explicitly described by MacNichol. Thus, it is respectfully submitted that claim 52 is also allowable for at least these additional reasons. Because claims 55 and 65 depend from, and, therefore include all of the limitations of claim 52, it is respectfully submitted that these claims are also allowable.

Claims 54 and 66 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Itil in view of MacNichol and Lee and in further view of U.S. Patent No. 5,279,305 to Zimmerman. It is respectfully submitted that Zimmerman does not cure the above-described deficiencies of Itil. Thus, because claims 54 and 66 depend from, and, therefore include all of the limitations of claim 52, it is respectfully submitted that these claims are also allowable.

Claim 69 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Itil in view of MacNichol and Lee in further view of U.S. Patent No. 4,454,886 to John. It is respectfully submitted that John does not cure the above-described deficiencies of Itil. Thus, because claim 69 depends from, and, therefore includes all of the limitations of claim 68, it is respectfully submitted that this claim is also allowable.

CONCLUSION

It is therefore respectfully submitted that all of the pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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By: _____

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